

Attached hereto is a marked-up version of the changes made to the specification.  
The attached page is captured "Version with Markings to Show Changes Made."

CONCLUSION

In view of the above amendments and remarks, it is submitted that instant claims 1-30 are in condition for allowance. Reconsideration and withdrawal of the objections and rejections is requested and allowance of the claims at an early date is solicited.

Respectfully submitted,

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**Version with Markings to Show Changes Made**

**In the specification:**

The Cross Reference to Related Cases paragraph beginning at page 1, line 11, has been amended as follows:

This application is related to co-pending, commonly owned patent application Serial No. \_\_\_\_\_ 09/696,528, filed October 23, 2000, entitled "Electrostrictive Graft Elastomers."--

The paragraph beginning at page 4, line 17, has been amended as follows:

Referring now to FIGs. 3A and 3B, actuator 140 comprises layer 310 of an electrostrictive polymer material having a tailorable Poisson's ratio. The strain in layer 310 increases in one direction as Poisson's ratio tends to zero. Any deviation of Poisson's ratio away from zero will produce off-axis displacement. Such off-axis displacement is preferably minimized. A Poisson's ratio of zero provides the especially preferred single axis displacement. A preferred material is the electrostrictive graft elastomer described and claimed in "Electrostrictive Graft Elastomers", Serial No. \_\_\_\_\_ 09/696,528, filed October 23, 2000, hereby incorporated by reference. The Poisson's ration is tailored via crystal orientation. Layer 310 is electroded 320 on both its upper and lower surfaces. The electrodes 320 can be single surface electrodes or interdigitated electrodes. An interdigitated electrode configuration allows additional options to vary drive voltage to the electrodes depending on the electrode spacing of a particular design. Suitable materials for the electrodes are conductive polymers, such as polypyrrole or ployaniline, or soft metals, such as gold. The surface of layer 310 that is electroded is maximized. Layer 330 is bonded to the upper electroded layer 310. A suitable bonding material is a chemical adhesive, such as epoxy. It is preferred for layer 330 to be of the same material as layer 310 so that layer 310 can function as either an active or inactive layer depending on whether it is electrically activated. If a different

material is used for layer 330, it must be an insulator. The surface area and thickness of the various layers will vary depending upon specific response requirements.

The paragraph beginning at page 3, line 29 has been amended as follows:

A more complete appreciation of the invention and the many of the attendant advantages thereof will be readily attained as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein:

FIG. 1 illustrates a prior art membrane structure.

FIG. 2 illustrates the ~~prior art membrane structure with integrated tension control actuators~~ present invention, including tension control actuators integrated into the membrane structure.

FIGs. 3A and 3B illustrate the actuator layers.

FIGs. 4A and 4B illustrate the actuator in its rolled state.

FIG. 4C is a cross-sectional view of FIG. 4B illustrating greater detail of the cap attachment.